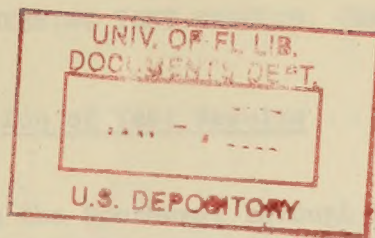


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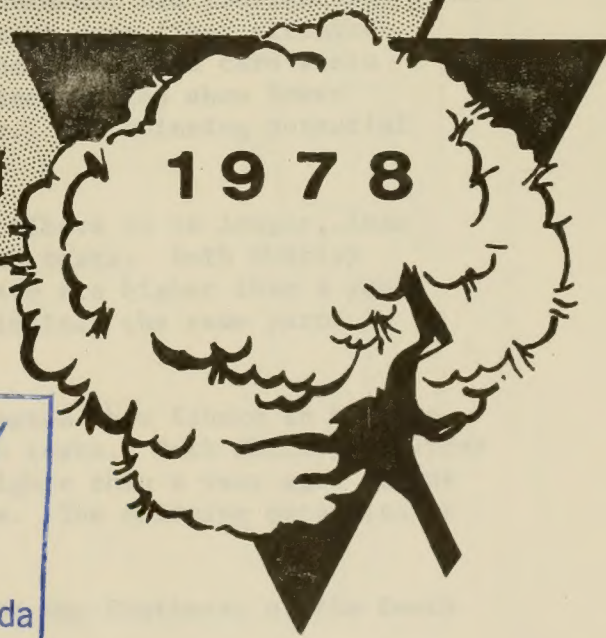
REPORT NO. 9



Cotton Fiber and Processing Test Results

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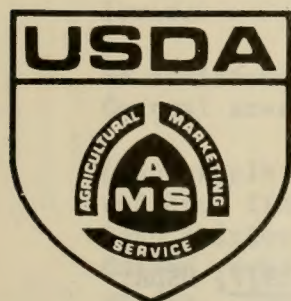
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Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 December 29, 1978

REPORT NO. 2

These reports are published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.^{1/} These reports are available on request from the Standards Section, Cotton Division, Agricultural Marketing Service, U.S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN. 38122.

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^{1/} Summary of Cotton Fiber and Processing Test Results, Crop of 1977, USDA, AMS, Cotton Division, August 1978.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1978

Discussion of Test Results

Short staple cottons tested from the Southwest through December 22, are shorter and less uniform than a year ago, according to the Cotton Division, Agricultural Marketing Service, USDA. Cottons are finer and stronger at zero gage fiber strength tests, but slightly weaker at 1/8" gage tests. Both Shirley Analyzer nonlint content and picker and card waste are higher than a year ago. Yarns spun from these samples are weaker but have higher appearance grades. Yarn imperfections are lower. The spinning potential yarn number is lower.

Southeastern medium staple samples tested to date are longer, finer and stronger at 1/8" gage strength tests. Shirley Analyzer nonlint content is higher while picker and card waste is slightly lower. Yarns spun from these samples are stronger with lower imperfections. The spinning potential is higher.

South Central medium staple samples tested show fibers to be shorter and stronger at zero gage than a year ago. Picker and card waste is higher. Yarns spun from these samples are weaker but show lower imperfections. The spinning potential yarn number is lower.

Medium staple samples tested to date from the Southwest are considerably shorter, less uniform, coarser and stronger at zero gage fiber strength tests. Both Shirley Analyzer nonlint content and picker and card waste are higher than a year ago. Yarns spun from these samples show lower appearance grades. Yarn imperfections are lower. The spinning potential is lower.

Medium staple samples tested from the West show fibers to be longer, less uniform, coarser and weaker at 1/8" gage strength tests. Both Shirley Analyzer nonlint content and picker and card waste are higher than a year ago. Yarns spun from these samples show approximately the same yarn qualities as a year ago.

Average results for all medium staple cottons tested show fibers to be less uniform and stronger at zero gage fiber strength tests. Both Shirley Analyzer nonlint content and picker and card waste are higher than a year ago. Yarns spun from these samples show lower imperfections. The spinning potential is lower.

No additional long staple lots were received from the Southeast or the South Central area during this period.

Long staple samples tested from the West show fibers to be shorter, less uniform, finer and weaker than a year ago at this stage of the harvest. Both Shirley Analyzer nonlint content and picker and card waste are higher. Carded yarns spun from these samples are weaker and have lower appearance grades. Imperfections are higher. Spinning potential is lower.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through December 22, 1978 1/

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results					
		Fibrograph		Mike fine- ness	Fiber strength		S A nonlint	P & C waste	Yarn quality			Spin. Potent.	
		2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Skein str.	Appear- ance	Imperf- ections		
				Inches			Pct.	Rdg.				Mpsi	G/tex
		22s Carded Yarn											
Short Staple: Southwest	81	.99	46	42	88	22	3.2	5.4	100	109	13	3/	48
	30	.95	45	41	90	21	4.3	7.2	95	119	8	-	(16)
													41
Medium Staple: Southeast	36	1.08	45	47	86	22	3.2	6.1	96	92	21	-	50
	36	1.10	45	45	86	23	3.5	6.0	108	92	15	(77)	58
South Central	123	1.11	45	46	86	23	3.5	6.0	104	95	22	-	57
	124	1.09	45	46	88	23	3.5	6.5	100	95	13	(55)	51
Southwest	47	1.08	46	42	86	22	3.2	5.7	100	90	19	-	54
	40	1.03	45	43	89	22	4.3	6.4	100	82	16	(81)	51
West	81	1.11	46	43	94	26	2.6	5.3	119	86	21	-	68
	75	1.14	45	44	94	25	2.8	5.7	119	85	21	(114)	68
U.S. Average	287	1.10	46	45	88	23	3.2	5.8	106	91	21	-	59
	275	1.10	45	45	89	23	3.4	6.2	106	90	16	(77)	56
Significant dif- ference 2/		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2		3

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through December 22, 1978
1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results									
		Length		Mike	Strength		SA Non- lint	P&C Waste	Comber Waste	Yarn Quality					SPY		
		Span	Unif		Zero gage	1/8" gage				Strength carded	Lbs. carded	Indx carded	Appearance combed	Imprfctns card			
No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Pct.	Lbs.	Lbs.	Indx	Indx	No.	No.	No.	No.	
22s Carded & Combed Yarn																	
3/																	
Long Staple: Southeast	12	1.13	45	48	88	23	3.5	7.1	-	99	-	102	-	18	-	58	
1977	15	1.12	44	44	85	24	3.4	7.7	16.6	111	128	106	126	12	3	59	
1978																	
South Central	3	1.16	45	45	92	24	4.3	7.2	-	106	-	97	-	24	-	63	
1977	3	1.18	43	42	91	26	4.3	8.7	17.4	110	133	93	123	22	6	66	
1978																	
West	6	1.18	47	41	92	27	3.2	6.0	-	130	-	92	-	24	-	89	
1977	3	1.15	45	40	90	26	3.3	7.8	17.5	121	142	87	113	28	9	79	
1978																	
Extra Long Staple: West	3/																
1977	5	1.49	33	39	103	34	2.7	7.3	15.5	-	65	-	114	-	1	-	
1978																	
COMBED YARNS																	
AMERICAN PIMA																	
4(22s)																	
2(50s)																	
Significant Difference 2/	0.02	2	0.2	2	1	0.5	0.5	0.5	5	5	5	5	2	2	2	3	

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

3/ Combed data not available

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1978.

Production Area, Classification &					Fiber Test Results										Processing Test Results - Carded Yarns									
Sample Number		Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- lint	Color Raw Stock		P & C Waste		Strength		Elongation		Appearance Index		Imprfct'ns Neps/M Yards		Spin. Poten- tial			
No	Grade	Stple	2.5% span	Unif		Zero Gage	1/8" Gage		Gra	Yel		8s or 74 tx	22sor 27 tx	Lbs	8s or 74 tx	22s or 74 tx	8s or 74 tx	22sor 27 tx	8s or 74 tx	22sor 27 tx				
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Pct	Pct	No	No	No	No	No	No			
SOUTHWEST AREA																								
NORTHWEST TEXAS																								
EARTH																								
1 LM LT SP	52	32	1.01	44	34	83	21	7.0	4.9	4	3	8.6	286	92	7.7	6.6	120	120	37	(2)	10	1/ 44		
PAYMASTER 303																								
LEVELLAND																								
1 LM LT SP	52	33	1.02	42	37	85	21	6.7	6.5	3	3	9.6	292	93	7.5	6.8	130	110	36	(2)	15	(30) 48		
PAYMASTER 303																								
LORENZO																								
2 SLM LT SP	42	32	1.00	46	39	87	24	7.2	4.9	3	3	6.1	335	108	8.0	7.1	130	120	29	(2)	12	(20) 65		
PLAINVIEW																								
1 SLM LT SP	42	31	0.95	46	43	82	21	6.6	4.0	3	3	6.6	257	83	7.1	6.3	120	120	33	(2)	9	(4) 38		
GSA71																								
POST																								
1 SLM LT SP	42	30	0.94	45	43	88	21	6.7	4.3	3	3	7.5	276	90	7.1	6.4	120	120	19	(0)	7	(14) 37		
STRIPPER 31																								
SUDAN																								
2 SLM LT SP	42	31	0.94	44	41	89	22	6.2	4.1	4	4	6.8	280	95	6.9	6.5	130	120	30	(0)	11	(10) 45		
QUAPAM																								

1/ Parentheses indicate the neps per 1000 yards of yarn as measured by the Uster instrument.

Table 3.-Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1978.

Production Area, Classification				Fiber Test Results										Processing Test Results - Carded Yarns									
Sample Number		Stple	Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imperfect's Neps/M Yards		Spin. Poten- tial		
No	Grade & Code		2.5% span	Unif.		Zero Gage	1/8" Gage			Pct	G/tex		Pct	No	Yel	No	Pct	27 tx	Lbs	22s or 27 tx		50s or 12 tx	No
SOUTHEAST AREA																							
ALABAMA																							
MOUNDVILLE																							
41	34	1.09	46	46	83	25	7.1	2.7	1	3	5.3	5.3	106	36	6.2	4.8	90	70	18	15	1/ (302) 61		
70 PERCENT																							
GEORGIA																							
OGLETHORPE																							
41	34	1.10	45	49	90	23	5.7	4.6	1	3	6.2	6.2	104	34	5.9	4.5	90	70	21	(56) 18	(286) 57		
75 PERCENT																							
SOUTH CENTRAL AREA																							
ARKANSAS																							
LEACHVILLE																							
41	35	1.11	46	46	82	22	6.8	3.6	1	3	6.2	6.2	98	33	6.4	4.8	80	60	26	(100) 18	(226) 56		
100 PERCENT																							
MISSOURI																							
HORNERSVILLE																							
41	34	1.07	44	40	83	22	7.1	3.6	1	3	5.2	5.2	104	35	6.5	4.8	80	60	31	(74) 21	(348) 57		
90 PERCENT																							
PORTAGEVILLE																							
51	34	1.08	46	46	84	23	6.4	4.3	3	3	6.5	6.5	102	33	5.9	4.3	110	80	17	(42) 12	(160) 54		
90 PERCENT																							
SOUTHWEST AREA																							
NORTHWEST TEXAS																							
PLAINS																							
41	34	1.07	44	38	90	25	6.5	3.0	3	4	7.8	7.8	103	34	6.3	4.6	80	60	24	(48) 19	(330) 54		
90 PERCENT																							

1/ Parentheses indicate the neps per 1000 yards of yarn as measured by the Uster instrument.

Table 3--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1978.

Production Area, Classification				Fiber Test Results										Processing Test Results - Carded Yarns									
Sample Number		Digital Fibrograph		Fiber Strength		Elon- gat'n 1/8" Gage		S.A. Non- Lint		Color Raw Stock		P & C Waste		Strength		Elongation		Appearance Index		Imprct'ns Neps/M Yards		Spin- Poten- tial	
No	Grade & Code	Stple 32s	Unif. Pct	Mpsi	G/tex	Pct	Pct	Pct	No	Yel	No	Pct	Pct	Lbs	Lbs	Pct	Pct	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	No	No
WEST AREA																							
ARIZONA																							
BOWIE																							
2 SM		21	34	1.06	44	46	79	21	6.8	2.0	0	4	5.4	90	29	6.3	4.7	80	70	17	(80)	17	(204)
BUCKEYE																							
2 SLM LT SP		42	36	1.14	46	48	95	24	5.3	3.4	2	4	6.4	120	43	6.0	4.6	90	70	21	(142)	15	(344)
CASHION																							
2 SLM		41	35	1.09	42	47	91	22	5.5	3.6	2	3	6.1	89	28	5.4	4.0	90	60	21	(68)	16	(490)
GILA BEND																							
2 SLM		41	34	1.07	45	46	90	24	5.7	2.6	1	2	5.4	100	35	6.0	4.7	90	70	17	(40)	10	(160)
MARANA																							
2 SLM		41	35	1.11	42	42	83	21	6.1	2.4	2	3	6.4	99	33	6.6	5.0	70	60	20	(72)	13	(396)
MARICOPA																							
2 SLM		41	36	1.15	43	46	84	23	6.8	3.7	1	2	5.2	104	37	6.4	4.6	90	60	22	(80)	17	(412)
PARKER																							
2 SLM		41	34	1.10	45	50	89	24	6.0	3.2	2	2	6.1	104	39	6.1	4.6	80	60	23	(76)	18	(316)
PEORIA																							
2 LM		51	35	1.13	46	50	85	23	6.2	4.0	3	2	6.7	99	34	6.2	4.4	110	80	20	(72)	16	(290)
ROLL																							
3 SLM		41	35	1.09	44	45	89	24	6.5	2.7	1	3	5.6	98	33	5.9	4.7	100	60	21	(66)	13	(350)
CALIFORNIA																							
ARVIN																							
3 MID		31	36	1.14	49	45	101	28	5.3	1.5	0	3	4.3	133	49	6.5	5.3	100	70	19	(78)	13	(196)
ARVIN																							
3 SLM		41	35	1.11	47	38	93	26	5.6	3.0	1	3	5.2	126	47	6.2	4.9	80	60	29	(148)	22	(374)
BAKERSFIELD																							
3 MID		31	35	1.08	45	41	99	25	5.4	2.0	1	3	5.6	117	42	5.7	4.7	80	60	18	(124)	12	(250)
BAKERSFIELD																							
3 SLM		41	36	1.12	46	38	93	26	5.8	2.7	1	2	5.6	123	44	6.2	4.8	80	60	22	(114)	15	(270)
BUTTONWILLOW																							
3 MID		31	36	1.13	46	43	98	26	5.4	1.8	1	3	4.9	132	46	6.5	4.8	100	70	18	(92)	11	(200)

1/ Parentheses indicate the neps per 1000 yards of yarn as measured by the Uster instrument.

Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1978.

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns										
No	Grade	Name & Code	Style	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint		Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns Neps/M Yards		Spin. Potent-ial	
				2.5% span	Unif.		Zero	1/8" Gage		Pct	Pct	Gra	Yel		Lbs	Lbs	Pct	Pct	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx		22s or 27 tx
West continued																								
CHOWCHILLA																								
1	MID	31	35	1.13	47	40			ACALA SJ-4	1.8	1	4	4.2	135	51	6.7	5.4	80	60	29	(132)	18	(350)	91
2	SLM	41	36	1.13	48	38				2.5	1	3	4.9	133	50	6.6	5.1	80	60	28	(148)	17	(360)	88
CHOWCHILLA																								
1	SLM PLUS	40	36	1.15	48	41			ACALA SJ-4	2.6	1	3	5.3	139	53	6.8	5.4	90	60	32	(112)	16	(294)	93
2	SLM	41	36	1.12	48	38				2.6	1	3	5.9	136	50	6.8	5.6	70	60	24	(122)	20	(316)	91
COALINGA																								
2	SLM	41	36	1.13	45	39			ACALA SJ-2	3.1	1	3	6.6	122	45	6.4	5.3	70	60	36	(186)	25	(498)	71
3	SLM	41	36	1.13	44	39				3.7	1	2	6.7	123	45	6.4	4.9	70	60	30	(114)	20	(358)	71
COALINGA																								
1	SLM	41	35	1.10	47	41			ACALA SJ-2	3.1	2	3	6.7	122	44	6.2	4.9	70	60	31	(152)	19	(348)	72
2	MID LT SP	32	35	1.11	47	43				2.2	2	4	4.5	115	42	5.6	4.9	80	60	13	(82)	11	(340)	68
FIRESAUGH																								
2	SLM	41	36	1.14	46	37			ACALA SJ-2	3.3	1	3	6.4	129	47	6.5	5.2	80	60	21	(108)	16	(266)	79
FIVE POINTS																								
2	SLM	41	36	1.12	45	38			ACALA SJ-2	3.2	1	3	6.7	127	46	6.2	4.7	80	60	26	(192)	20	(382)	75
3	SLM	41	36	1.14	47	39				2.9	1	3	6.0	123	45	6.5	5.1	80	60	21	(142)	17	(370)	75
HANFORD																								
2	MID	31	35	1.12	45	40			ACALA SJ-5	2.4	1	3	4.8	136	51	6.4	4.9	80	60	26	(130)	19	(276)	85
3	SLM	41	35	1.13	47	42				2.7	2	3	5.2	127	47	6.2	4.6	80	60	26	(142)	22	(390)	78
HELM																								
2	MID	31	36	1.14	47	41			ACALA SJ-2	2.2	0	3	5.5	126	47	6.3	5.1	80	60	24	(84)	18	(338)	77
3	SLM	41	36	1.18	48	47				3.3	1	2	6.1	136	48	6.4	5.0	80	60	20	(96)	14	(246)	89
LOS BANOS																								
1	SLM PLUS	40	36	1.16	47	43			ACALA SJ-2	3.3	1	3	6.1	121	45	6.1	5.4	70	60	36	(146)	23	(512)	76
2	SLM	41	36	1.17	48	42				4.0	1	3	6.9	135	52	6.7	5.6	80	60	25	(152)	21	(398)	93
RIPLEY																								
3	MID LT SP	32	34	1.09	45	50			DELTA PINE 61	2.4	2	3	5.1	106	37	6.0	4.5	120	70	20	(80)	14	(400)	59
4	SLM	41	35	1.09	44	45				2.9	1	2	6.3	100	35	5.8	4.5	110	60	19	(62)	12	(282)	54
SHAFTER																								
3	SLM	41	36	1.12	46	42			ACALA SJ-2	3.1	1	3	6.2	127	46	6.4	5.2	70	60	33	(160)	23	(360)	77
TIPTON																								
3	SLM	41	35	1.11	47	40			ACALA SJ-4	3.5	2	3	5.9	133	49	6.8	5.3	80	60	33	(152)	23	(392)	84

1/ Parentheses indicate the neps per 100 yards of yarn as measured by the Uster instrument.

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1978.

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns									
No	Grade	Name & Code	Stple	Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns Neps/M Yards		Spin- Poten- tial	
				2.5% span	Unif.		Zero Gage	1/8" Gage			Gr	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx		
				32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	
West continued																							
TULARE				41	36	1.13	48	43	99	28	5.7	4.5	2	2	6.1	134	51	6.2	5.3	80	60	28	1/ (216)19 (324) 89
VISALIA																							
2 SLM				41	36	1.13	47	39	95	27	5.3	2.6	1	3	6.4	132	51	6.4	5.0	80	60	28	(130)19 (348) 84
3 SLM				41	36	1.11	45	37	99	28	5.6	2.9	0	2	5.1	128	47	6.5	5.3	70	60	22	(44)19 (328) 78
WESTMORLAND																							
2 SLM				41	35	1.09	43	43	92	24	6.4	3.2	1	3	6.0	104	36	6.2	4.8	90	60	20	(62)15 (246) 56

1/ Parentheses indicate the neps per 1000 yards of yarn as measured by the Uster instrument.

Table 4--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1978.

Production Area, Classification				Fiber Test Results										Processing Test Results - Carded Yarns									
Sample Number & Grade			Stple	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Comber Waste	Strength		Elongation		Appearance Index	Imprfect'ns Neps/M Yards		Spin. Potential		
				2.5% span	Unif.		Zero Gage	1/8" Gage			No	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx		22s or 27 tx	50s or 12 tx			
No	Name & Code		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No		
WEST AREA																							
NEW MEXICO																							
LAS CRUCES																							
2 SLM	41	37	1.16	46	40	92	26	6.2	3.0	2	2	6.7	127	45	6.6	5.3	90	70	28	28	1/24 (278)	85	
												* 16.7	149	54	7.1	5.7	110	100	9	9	34	8 (214)	
WEST TEXAS																							
PECOS																							
1 LM	51 ^{2/}	35	1.10	42	37	87	23	5.8	3.8	3	3	9.1	101	34	5.9	4.4	90	60	26	26	21	(264)	55
												* 19.3	124	42	6.7	4.8	110	90	10	10	40	7 (264)	

1/ Parentheses indicate the neps per 1000 yards of yarn as measured by the Uster instrument.

2/ Reduced from 41 because of bark.

* * Comber Waste and Combed Yarn Data

Table 5--Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1978.

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Combed Yarns									
				Array Length		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint		Color Raw Stock		P & C Waste	Comber Waste	Strength		Elongation		Appearance Index		Imprfect'ns Neps/M Yards	
				UQL	CV	Pct	Zero Gage	1/8" Gage	Pct	Pct	Pct	Gra	Yel	Pct	Pct	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx
No	Grade	Stple	32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	Pct	No	No	Pct	Pct	Ibs	Ibs	Pct	Pct	No	No	No	No
AREA																							
WEST																							
ARIZONA																							
TONOPAH																							
1	4	46	1.53	28	42	104	36	7.2	2.6	4	5	6.7	13.2	69	100 PERCENT	36	6.3	5.3	120	110	0	(26)	0 (84)
NEW MEXICO																							
LAS CRUCES																							
1	3	46	1.50	33	38	105	33	7.3	2.1	4	5	6.8	20.4	63	100 PERCENT	34	5.8	5.2	120	110	2	(34)	1 (148)
WEST TEXAS																							
EL PASO																							
1	5	46	1.49	32	36	102	33	7.4	3.1	5	5	9.4	15.0	62	100 PERCENT	35	6.1	5.1	110	110	2	(42)	1 (178)

1/ Parentheses indicate the neps per 1000 yards of yarn as measured by the Uster instrument.